



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,762	03/04/2004	Takashi Katsumata	01-570	4421
23400	7590	08/06/2004	EXAMINER	
POSZ & BETHARDS, PLC 11250 ROGER BACON DRIVE SUITE 10 RESTON, VA 20190			TSAL, H JEY	
			ART UNIT	PAPER NUMBER
			2812	

DATE MAILED: 08/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/791,762

Applicant(s)

KATSUMATA ET AL.

Examiner

H.Jey Tsai

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/4/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 are rejected under 35 U.S.C. § 102(e) as being anticipated by Murata 6,601,452, cited by Applicants.

Akira teaches a method of manufacturing a semiconductor pressure sensor on a monocrystal silicon substrate in which the face direction of one face corresponds to the disposing an etching (110) -face, see abstract and figs. 8+ and col. 6, lines 16+,

disposing an etching mask M1 at the one face side of the monocrystal silicon substrate 1, wherein the etching mask has a cross-shaped opening portion at which a first area extending along the <110> crystal axis direction and a second area extending along the <100> crystal axis direction cross each other, and an area of an opening portion in an overlap area between the first area and the second area in the opening portion is set to be smaller than an area of a diaphragm to be formed in the substrate, forming a recess portion on the monocrystal silicon substrate by conducting anisotropic etching from the one face of the monocrystal silicon substrate and also forming a

Art Unit: 2812

pressure-receiving diaphragm at the bottom surface side of the recess portion in the monocrystal silicon substrate,

the opening portion of the overlap area between the first area L1 and the second area L2 in the opening portion of the etching mask M1 is designed in an octagonal shape, fig. 9A-11B, 16A.

Claims 1-3 are rejected under 35 U.S.C. § 102(b) as being anticipated by Akira JP 9018016, cited by applicants.

Akira teaches a method of manufacturing a semiconductor pressure sensor on a monocrystal silicon substrate in which the face direction of one face corresponds to the disposing an etching (110) -face, see abstract and figs. 1-8,

disposing an etching mask 1 at the one face side of the monocrystal silicon substrate, wherein the etching mask has a cross-shaped opening portion at which a first area extending along the $\langle 110 \rangle$ crystal axis direction 4 and a second area extending along the $\langle 100 \rangle$ crystal axis direction 5 cross each other, and an area of an opening portion in an overlap area between the first area and the second area in the opening portion is set to be smaller than an area of a diaphragm to be formed in the substrate,

forming a recess portion on the monocrystal silicon substrate by conducting anisotropic etching from the one face of the monocrystal silicon substrate and also forming a pressure-receiving diaphragm at the bottom surface side of the recess portion in the monocrystal silicon substrate,

Art Unit: 2812

the opening portion of the overlap area between the first area 4 and the second area 5 in the opening portion of the etching mask is designed in an octagonal shape, fig. 3 and abstract.

Any inquiry of a general nature or clerical matters or relating to the status of this application or proceeding should be directed to the Group customer service whose telephone number is (703) 308-4357.

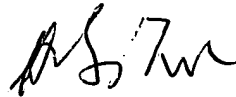
Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. Jey Tsai whose telephone number is (571) 272-1684. The examiner can normally be reached on from 7:00 Am to 4:00 Pm., Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on (571) 272-1679.

The fax phone number for this Group is (703) 872-9306.

hjt

6/21/04



H. Jey Tsai
Primary Examiner
Patent Examining Group 2800